

Abstract of the Disclosure

A plasma CVD apparatus includes first and second electrodes, neutral gas introduction pipes, and a plasma confining electrode interposed between the first and second electrodes to separate a plasma generation region and a substrate processing region. The plasma confining electrode has a hollow structure defined by an upper electrode plate, and a lower electrode plate, and has gas diffusing plates provided in the hollow structure, and has radical passage holes provided to supply radicals from the plasma generation region into the substrate processing region while isolating from a neutral gas. The plasma confining electrode is connected to the neutral gas introduction pipes, and a plurality of neutral gas passage holes are provided for each of the lower electrode plate and the gas diffusing plates to supply the neutral gas into the substrate processing region. A total opening area of the plurality of neutral gas passage holes in the gas diffusing plate on a side of the upper electrode plate is smaller than that of the plurality of neutral gas passage holes in the gas diffusing plate on a side of the lower electrode plate.